

ELECTRICAL WIRE DISPENSING DEVICE

Field of the Invention

The present invention is directed to a device for dispensing coiled wire and cable. It is specifically directed to a device for dispensing wire or cable which precludes kinking of the wire or cable as it is dispensed.

Background of the Invention

Electrical wire commonly used in the residential and commercial construction industry is generally manufactured in coils of predetermined lengths and diameters. The individual coils of wire are typically shipped and sold to contractors in boxes or as a roll in plastic-wrap material. In order to use the electrical wire, the contractor must pull the wire from its shipping box or uncoil the wire from its roll configuration once the plastic-wrap is removed. Unfortunately, when the electrical wire is pulled from its box or uncoiled from its roll, it will often become kinked or knotted which in turn requires the contractor to temporarily discontinue installation of the wire in order to remove the kinks or knots from the electrical wire. Eliminating the kinking or knotting of electrical wire during installation will decrease both the time and costs of installation. The present invention is an easy to use wire dispensing device consisting of relatively few parts. The simplicity and portability are some of major attributes of the subject device which distinguish it from the prior art.

U.S. Patent No. 3,729,092 is directed to a portable support on which coiled electrical wire can be placed and then hung to permit the wire to be pulled and unwound from the support base for use. However, the '092 invention does not employ a means for preventing the base from continuously rotating once the user discontinues pulling wire from the device (and thus dispensing wire unnecessarily).

U.S. Patent No. 3,974,980 is directed to a wire reel for dispensing the electrical wire from its cardboard box or its coiled form. Similar to the invention of the '092 patent, the invention of the '980 patent utilizes a base support for the electrical wire and a means for suspending the

device when in use. Also, the '980 invention employs a guide/leader loop through which the electrical wire is pulled as it is uncoiled from the dispensing device for installation. However, the '980 device is constructed of numerous parts which may require adjustment or become lost, thus adding to its complexity for use and in the manufacturing of the device.

U.S. Patent No. 4,973,011 is directed to a device that allows the unwinding of coiled wire from the cardboard box in which it is packaged for sale and distribution. Similar to the above referenced '092 and '980 patents, the '011 patent employs a base support for the coiled wire. The '011 patent is functionally similar to the devices of the '092 and '980 patents in that all utilize a means to hang the devices during use. However, the '011 patent is limited to wire coils that are packaged in cardboard boxes.

Summary of the Invention

The present invention is directed to a device for dispensing electrical wire. An important aspect of the invention is that the device prevents the undesired kinking or knotting of coiled electrical wire that typically occurs when it is dispensed from its shipping box/container or coils. Another important aspect of the present invention is its ease of use and portability. The present invention has relatively few parts, none of which need to be adjusted before or during use. Additionally, the small size of the device and the mechanism by which it is secured to an overhead beam or pipe insures that the present invention will be easily repositioned at the work site and easily transported from work site to work site.

The base of the device is circular in shape and suspended by lines of polymeric rope or metal chains of equal length. The support lines are symmetrically spaced around the center of the base, with one end of each line being attached to the base and its opposite end being attached to a swivel-ring/hook component. An additional line of slightly greater length is provided having one end attached to a washer device on the swivel-ring/hook component and its other end terminating with a feed-loop through which the electrical wire is pulled as it is uncoiled/dispensed from the device. Once removed from its shipping container or plastic-wrap, the coiled electrical wire is placed onto the base support and the support lines are pulled through the center opening of the coiled wire. The support lines also keep the coiled wire symmetrically positioned on the base support once said lines are extended upward through the center of the coiled wire. The swivel-ring/hook component provides the means for suspending the device from and attaching the device to an overhead beam or pipe during use and simultaneously permits the base to freely rotate as wire is dispensed from the device. The beginning end of the electrical wire is directed through

the feed-loop of the guide line and the desired length of electrical wire is pulled from the device of the present invention.

Brief Description of the Drawings

FIG. 1 is a perspective view showing a coil of electrical wire positioned on the assembled device in preparation for use.

FIG. 2 is a perspective view showing the attachment of the support lines or chains to the swivel ring or hook and the attachment of the guide-line to the independently rotating washer.

FIG. 3 is an enlarged vertical view of the swivel ring or hook with attached support lines and the independently rotating washer with attached guide-line.

FIG. 4 is an enlarged vertical view of the I-bolt attaching a support line to the support base of the device.

Detailed Description of the Invention

The present invention is directed to a wire dispensing device which prevents the unwanted knotting or kinking of electrical wire during installation. As can be ascertained in Figure 1, the device is comprised of relatively few components. The circular base 1 of the device can be manufactured from any economical, lightweight, rigid material. The support lines 2 and guide-line 3 can be constructed of a suitable chain like material or stiff polymeric rope material. The support lines 2 are symmetrically attached around an inside center circle of the base by means of I-bolts 4 as shown in Figures 1 and 4; wherein the inside center circle has a diameter comparable to the inner diameter of a coil of electrical wire. The opposite end of the support lines 2 are attached to a swivel-ring/hook component 5 as can be seen in Figures 1, 2, and 3. As shown in Figure 3, the swivel-ring/hook component is comprised of a "D"ring 6 pivotally attached to a clasp-hook 7. The guide-line 3 is attached to an independently rotating washer 8 located on the swivel-ring/hook component 5 as shown in Figures 1, 2, and 3. The guide-line 3 terminates with a feed-loop 9 as displayed in Figure 1.

Upon unpacking the coil of electrical wire from the manufacturer's box or plastic-wrap, the coil is placed on the support base 1 and the support lines 2 are pulled upward through the

center opening of the coil (Figure 1). During use, the invention is suspended to an overhead beam or pipe by means of the swivel-ring/hook component 5 attached to the end of the support lines 2. When the device is suspended, the support lines 2 also keep the coil of electrical wire centrally positioned on the support base 1. The outside end of the electrical coil is directed through the feed-loop 9 on the guide-line 3 in preparation for use. The coil rotates on the support base 1 of the device as it is pulled from the wire dispensing device through the feed-loop 9.

The foregoing description in the present invention has been presented for purposes of illustration and description. Furthermore, the description is not intended to limit the invention to the form disclosed herein. Consequently, variations and modifications commensurate with the above teachings, in the skill or knowledge of the relevant art are within the scope of the present invention. The embodiments described herein are further intended to explain the best modes known for practicing the invention and to enable others skilled in the art to utilize the invention in such, or other, embodiments and with various modifications required by the particular applications or uses of the present invention. It is intended that the appended claims be construed to include alternative embodiments to the extent permitted by the prior art.